

**KARNATAKA ELECTRICITY REGULATORY COMMISSION**  
**16 C-1, Millers Tank Bed Area, Vasanthanagar, Bengaluru-560 052.**

**DISCUSSION PAPER ON 'WHEELING CHARGES AND BANKING FACILITY' FOR**  
**RENEWABLE ENERGY POWER PROJECTS**

**I. Preamble**

1. The Commission, under the provisions of the Electricity Act, 2003, has issued the KERC (Terms and Conditions for Open Access) Regulations, 2004. Clause 11 of the said Regulations specifies the Open Access Charges which, include Transmission charge, Wheeling charge and Cross subsidy surcharge. Accordingly, the Commission had determined the Transmission charge, Wheeling charge and Cross subsidy surcharge for Open Access transactions vide its Order dated 9<sup>th</sup> June 2005. In the said Order, the Commission had observed that the Renewable Energy based power projects cannot compete with conventional sources of energy and therefore, decided to continue the concessional wheeling charges being levied earlier by the Licensees. Thus, the Commission determined the Wheeling charges for renewable energy sources at 5% and Banking charges [only for Wind and Mini-hydel projects] at 2% of the energy injected and decided that other than these charges, RE Projects shall not be liable to pay any transmission charges or wheeling charges either in cash or kind. The Order also specified that annual banking facility in respect of Wind and Mini-hydel projects is to be allowed subject to payment of difference of unscheduled interchange [UI] charges between the time of injection and the time of drawal of power.
2. The Commission, in its subsequent orders continued the wheeling charges of 5% in kind until the order dated 14.05.2018. Further, the Annual banking facility for Non-REC route projects were continued until the order dated 09.01.2018.
3. The Commission in its order dated 14.05.2018 has ordered as follows:

"(1) Subject to the terms stated in Paragraph-2 below of this Order, all Renewable Energy Projects [other than the Captive Generators availing of the benefit of the Renewable Energy Certificate (REC)], which have not yet completed 10 (ten) years from the date of commercial operation, as on 31.03.2018, shall be:

(a) liable to pay 25% (twenty five percent) of the normal Transmission Charges and/or Wheeling Charges, payable in cash, as determined by the Commission in its Tariff Orders, issued from time-to-time, transmitting / wheeling electricity using the network of the Transmission Licensee / Distribution Licensee, as the case may be; and,

(b) in addition, liable to bear the applicable line losses, as approved by the Commission from time-to-time, by deducting from out of the net injected energy;

(c) in addition, liable to the other applicable charges, including Banking Charges of 2% (two percent), in kind;

(2)(a) The Solar Power Projects commissioned on or earlier to 31.03.2017 shall be continued with the existing concessional Charges;

(b) For the Wind Power Projects commissioned during the period between 10.10.2013 and 03.09.2017, 25% (twenty-five percent) of the normal Transmission Charges and/or Wheeling Charges, in cash, alone shall be levied, exempting the levy of the line loss, in kind;

(c) For the Mini Hydel Power Projects commissioned during the period between 01.01.2015 and 31.03.2018, 25% (twenty five percent) of the normal Transmission Charges and/or the Wheeling Charges, in cash and only 50% (fifty percent) of the applicable line loss, in kind, shall be levied;

- (d) For the Wind Power Projects and the Mini-Hydel Power Projects referred in (b) and (c) above, Banking Charges at 2% (two percent), in kind, and other applicable charges shall be levied; and,
- (e) The Biomass and Cogeneration Power Projects shall not be liable for the proposed Transmission Charges and/or Wheeling Charges, in cash, and the applicable line losses, in kind, and the said Projects shall be liable to pay only 5% (five percent), in kind, of the net energy injected as Transmission charges and/or Wheeling Charges;
- (3) The Renewable Energy Projects, which have completed the 10-year period from the date of commercial operation, as on 31.03.2018, shall be liable for normal Transmission Charges and/or Wheeling Charges, in cash, and the applicable line losses and banking charge, in kind, as determined by the Commission in its Tariff Orders, from time-to-time, in addition to the other applicable charges;
- (4) The Renewable Energy Projects, commissioned on or after 01.04.2018, shall be liable for 25% (twenty five percent) of the normal Transmission Charges and/or the Wheeling Charges, in cash, and the applicable line losses and banking charge, in kind, as determined by the Commission in its Tariff Orders, from time-to-time, in addition to the other applicable charges;
- (5) The Solar Power Projects, commissioned on or after 01.04.2018, shall be liable for the applicable Transmission Charges and/or Wheeling Charges, Cross-Subsidy Surcharge and the Banking Charges, for availing of the Open Access transactions, in addition to the other applicable charges;
- (6) The Captive Generators, availing of the benefit of the Renewable Energy Certificate (REC) mechanism, shall be liable to pay the

*normal Transmission, Wheeling and other charges, as specified in the Commission's Order dated 09.10.2013; and,*

*(7) This Order shall come into effect from 01.04.2018 and shall be in force till 31.03.2020 or until further Orders in this regard, whichever is later;"*

4. Further, on 18.08.2014, the Commission passed Order specifying the following for the Solar power projects:
  1. All the solar power generators in the State achieving commercial operation date (CoD) between 1st April 2013 and 31st March 2018 and selling power to consumers within the State on open access or wheeling shall be exempted from payment of wheeling and banking charges and cross subsidy surcharge for a period of ten years from the date of commissioning. This is also applicable for captive solar power plants for self-consumption within the State.
  2. The Captive solar power plants opting for Renewable Energy Certificates, shall pay the normal wheeling, banking and other charges as specified in the Commission's Order dated 9<sup>th</sup> October 2013.
5. **As the order date 14.05.2018, was applicable till 31.03.2020 or until further orders, whichever is later, the Commission is of the view that there is need to revise the transmission/wheeling charges applicable to Non-REC route based Renewable power projects and also on the banking facility extended to such projects, keeping in view the present Demand-Supply situation , the RPO met by ESCOMs, cost of RE generation and large scale integration of Renewable Power Projects to the Grid.**
6. The present situation has changed considerably as discussed below:
  - (a) **Demand -supply Position:**

As per the 2019-20 Load Generation Balance Report[LGBR] issued by the CEA, the actual demand-supply position during the FY19, indicates no

peak deficit and marginal energy shortfall of 0.10% for the Karnataka and peak shortfall of 0.2% and energy shortfall of 0.1% for Southern region and peak shortfall of 0.80% and energy shortfall of 0.60% for the Country. Further, the estimates for the FY20 as per the above report indicates a Peak surplus of 0.10% and energy surplus of 9.8% for the Karnataka, Peak surplus of 3.2% and energy surplus of 3.7% for the Southern region and peak surplus of 8.4% and energy surplus of 5.8% for the Country. Thus, as far as demand-supply position is concerned, the Country as well as the State is power surplus now, from the earlier deficit regime when concessions were extended to RE sources.

It is worthwhile here to note that, the State's installed capacity of solar which was 41 MW, during August,2014, has increased to 7300 MW as on April, 2020 and the total installed capacity of RE sources is 14892 MW. Thus, the share of Renewables is about 50% of the total installed capacity of 30065 MW, indicating considerable RE capacity addition in the past few years in the State.

**(b) RPO Compliance by ESCOMs:**

The provisional data for FY19, regarding RPO compliance by ESCOMs, indicate that the ESCOMs together have met Non- Solar RPO of 18.76% against target of 11.00% and Solar RPO of 11.85% against the target of 6.00%, indicating that ESCOMs have surpassed the targets considerably.

**(c) Cost of generation from RE Sources:**

The cost of the RE sources, especially that of the wind and the solar, has reduced considerably. The bid cost for solar and wind, are less than Rs.3.00/unit and are below the cost of new conventional thermal power plants that cost more than Rs.5.00/unit. Thus, in the changed scenario, the wind and the solar power projects can compete with the conventional sources of energy, in terms of cost per unit. Further, with HT consumers of the ESCOMs being required to cross-subsidize other category of consumers, more and more HT consumers are opting for Open Access (OA)/wheeling, as it would be financially beneficial to such consumers considering the